

PTEROSOMA, LESSON, CLAIMED AS A HETEROPOD.

By C. HEDLEY, F.L.S., etc.

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WHILE collecting on March 17th of this year the jelly-like and transparent oceanic animals *Abyla*, *Bassia*, *Calpe*, and *Diphyopsis*, among the Siphonophoræ, the Amphipod *Oxycephalus*, and the Pteropod *Cavolinia*, cast ashore by an easterly gale at Mavonbra Bay, near Sydney, my colleague, Mr. T. Whitelegge, detected a molluscan visitor to which several years' scrutiny of the pelagic fauna had never before introduced him.¹

The first comparison the stranger suggested was with *Carinaria*, to which genus it stands closer than to any other admitted in Fischer's Manuel, but from which, and from all other known Heteropods, the broad wing-like expansion of the body distinguishes it. This feature is well expressed in the drawings 3, 3 bis, Plate Mollusques No. 3, of the Atlas Histoire Naturelle of the Voyage of the "Coquille," representing *Pterosoma plana*, Lesson. Seventy years ago the French scientific expedition fished up this species between the Moluccas and New Guinea, but never again, till now, had it been encountered by a naturalist.

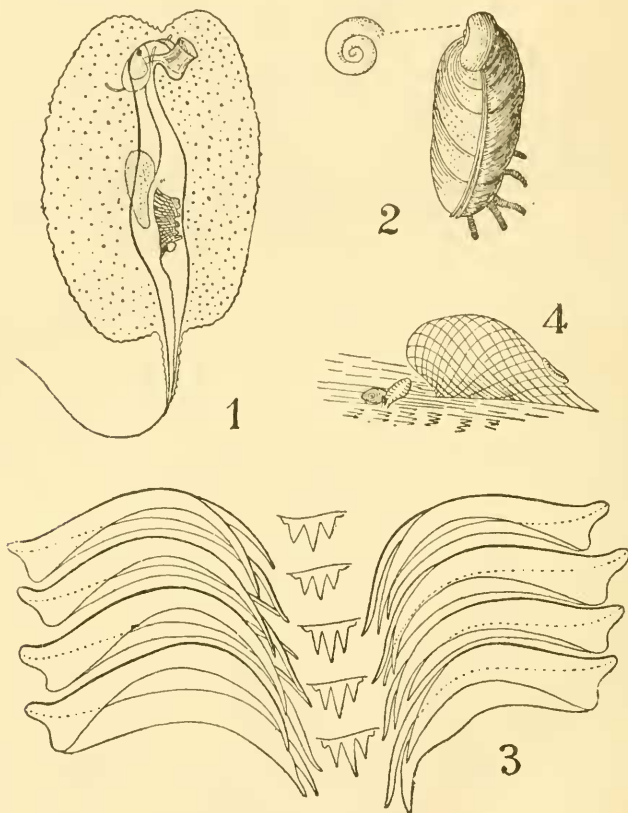
Fischer (Man. Conch., p. 537) rejects the genus from the Mollusca on the ground that it may be a pelagic Nemertine. His opinion seems to be mere conjecture, and no Nemertine, so far as I can learn, assumes this shape.

I would now advance another hypothesis,—that Lesson's drawing represents the animal I am about to describe, from which the shell, with its contained viscera, the fin, and the proboscis, had been all torn away. That this is a possible accident is shown by specimens before me, from one of which the shell and its contents have been twisted off, another is without a head, and yet another has the head torn half through between the eye and the tentacle, just where Lesson's specimen is supposed to have been decapitated.

One alone among half-a-dozen specimens before me has quite escaped injury. All appear to be females, except one, which is certainly a male. None are so large as the drawings quoted, in which G. N. indicates "grandeur naturelle." Instead of 80 mm., my specimens measure from head to tail 30 mm., the body being 18 mm. long by 13 broad. The preserved specimens have now lost all their colour, but Mr. Whitelegge tells me that in life a delicate rose, much as in

¹ The following week the same indefatigable collector added to the Australian molluscan roll the the pelagic *Fionia marina*, Forskal.

Lesson's plate, tinted the branchiæ, the median line, and the sides. As preserved, the transparency of the body is only broken by scattered opaque whitish dots, while its gelatinous substance permits the stomach within, and the shell beyond, to be plainly seen through it. The external surface is roughened by small pimples. As a whole, the



1. Female *Pterosoma*, seen from above.
2. Shell of the same, seen from beneath, showing branchiæ protruding; also embryonic shell seen at right angles to the other.
3. Portion of radula of *Pterosoma*.
4. Foot of male *Pterosoma*. On the posterior crest is shown the sucker, anteriorly the external genitalia. Drawings variously enlarged and reproduced from the pen sketches of the writer.

creature is somewhat fiddle-shaped; the body consisting of an ellipse that is emarginate anteriorly, and produced into a tail posteriorly, the wing-like expansions do not thin out at the edges, the body proper is cylindrical, and extends from the anterior emargination towards the

tail. The anterior extremity of the body is free from the lateral expansion, and consists of a bell-shaped proboscis or buccal mass, behind which are two small and slender tentacles; behind these again, just where the free portion of the head becomes attached, are the eyes. In the centre of the back arises the crested fin, whose muscular fibres are interlaced diagonally. On the posterior edge of the fin a sucker is discernible; to the right anterior of the fin, in the male, the external genitalia (Fig. 4) are situated. A median groove, in which the fin is seated, extends to the tail, which latter tapers for some distance and then continues as a slender thread, terminating without sucker or other appendage. On the under surface, just beneath the fin, are suspended the shell and its contents, from the anterior edge of which protrude the branchiæ-like fingers (Fig. 2). The shell is carried with its spiral end posteriorly; it is 4.5 mm. long, 1.5 mm. broad and high, apically consisting of a spiral, smooth, purple shell of $2\frac{1}{2}$ whorls, at right angles to which extends the adult boat-shaped shell, white, glassy, shining, most brittle, ornamented by a double lamellar keel running from the embryonic shell along its periphery; from keel to margin curved growth lines undulate the side of the shell. The radula (Fig. 3) possesses the usual scythe-like lateral teeth of the family, but the rachidian has an individuality distinct from that of *Carinaria* or *Atlanta*, as figured (*op. cit.*, figs. 344, 346) by Fischer.